

Appl. No. 09/891,672
Amdt. dated March 9, 2004
Reply to Office action of December 9, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-20 (Cancelled)

21. (Currently Amended) A method for removing bromine-reactive contaminants from an aromatic hydrocarbon stream which comprises:
providing an aromatic hydrocarbon feedstream which has a negligible diene level;
contacting the feedstream with an unbound or self-bound acid active catalyst composition comprising self-bound MCM-22 under conditions sufficient to remove mono-olefinic bromine-reactive contaminants.

22. (Previously Presented) The method of claim 1 wherein the diene level is below 50 ppm.

23. (Previously Presented) The method of claim 1, wherein the aromatic hydrocarbon stream comprises C7+ reformate or light reformate.

24. (Previously Presented) The method of claim 23 wherein the reformate comprises benzene, toluene and xylene.

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

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29. (Previously Presented) The method of claim 21 wherein the conditions comprise a temperature from about 200°F to about 500°F, a space velocity from about 0.1 WHSV to about 100 WHSV, and a pressure from about 50 to about 1000 psig.

30. (Previously Presented) The method of claim 21 wherein the aromatic hydrocarbon feedstream has a negligible diene level as it emerges from a previous petroleum processing procedure.

31. (Previously Presented) The method of claim 21 wherein the aromatic hydrocarbon feedstream has a diene level which has been decreased by pre-treatment of the feedstream to decrease dienes to a negligible level.

32. (Previously Presented) The method of claim 31 wherein the pre-treatment comprises contacting an aromatic hydrocarbon stream containing dienes with a diene-removing catalyst composition at conditions sufficient to remove dienes to a negligible level but not mono-olefins.

33. (Previously Presented) The method of claim 32 wherein the diene-removing catalyst comprises clay or base metal-containing hydrotreating or hydrogenation catalyst.

34. (Previously Presented) The method of claim 33 wherein the diene-removing catalyst comprises an element selected from the group consisting of NiMo/Al₂O₃, CoMo/Al₂O₃, Ni/Al₂O₃ and Ni/SiO₂.

35. (Previously Presented) The method of claim 34 wherein the conditions sufficient to substantially remove dienes but not mono-olefins comprise a temperature from about 50°F to about 500°F, a space velocity from about 0.1 WHSV to about 10 WHSV, a pressure from about 50 to about 500 psig, and in the absence of added hydrogen.

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36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Currently Amended) A method for removing bromine-reactive contaminants which comprise dienes and mono-olefins from an aromatic hydrocarbon stream, said method comprising:

contacting the aromatic stream with a catalyst composition comprising clay or hydrotreating catalyst, said contacting being under first conditions comprising a temperature of about 100°F to about 500°F, a space velocity from about 0.1 WHSV to about 10 WHSV, and a pressure from about 50 to about 500 psig, to selectively and substantially remove dienes providing an essentially diene-free aromatic feedstream;

contacting the essentially diene-free aromatic feedstream with an unbound or self-bound acid active catalyst which comprises ~~a crystalline molecular sieve material~~ self-bound MCM-22, said contacting being under second conditions comprising a temperature from about 200°F to about 500°F, a space velocity from about 0.1 WHSV to about 100 WHSV, and a pressure from about 50 to about 1000 psig, to selectively remove mono-olefins from the aromatic feedstream.

40. (Cancelled)